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(54) **Portable, folding book-rest with adjustable incline.**

(57) The object of this invention is the realization of a portable, folding book-rest, with adjustable incline which can be used for any reading and/or writing situation. It consists essentially of an adjustable, reclining support on which the text is placed. The support is hinged on a horizontal-supporting base and set on a bracket. The bracket is conveniently hinged on the horizontal base and can rotate to a certain degree supporting the text-supporting base and providing, through its range of movement, the incline for the text itself.

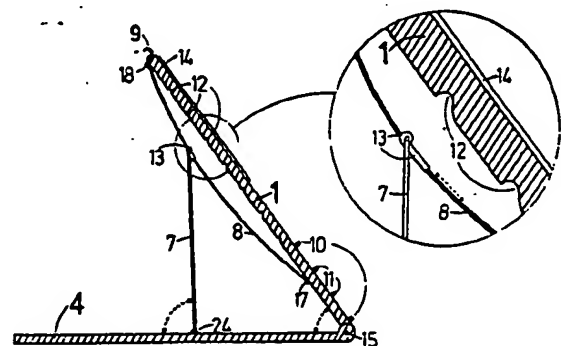


Fig.1

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Portable, folding book-rest with adjustable incline.

Reading is an everyday activity often carried out while working, studying or taken up as a hobby, but isn't always done under the best conditions. We know how difficult it is to handle large volumes, such as dictionaries or year-books, in the work of translation or consultation. Moreover one's back and eyes often get tired, especially in cases of long hours spent studying or consulting horizontally-placed texts.

This invention, apart from its general use, can be especially useful for establishing a correct reading position for children. Many problems of vision and posture are caused or worsened by an incorrect spine position when engaged in reading and/or writing. The cause of many cases of scoliosis or visual defects (close up reading, reading at a wrong angle, etc.) originates right back to the early school years and these defects can persist or even become irreversible. The use of the above-named invention enables the child to assume the correct reading position, with regard to both eye-text distance and spine position, right from the beginning of his reading. The difficulty of reading in bed, sofas and particularly in cases of infirmity is also well-known. The use of this invention eliminates all these inconveniences by making reading easy and as little tiring as possible in any situation: at a table, in bed, while travelling, etc.

At present, book-rests available in commerce are generally made to meet rather specific needs: score supports for musicians, book-rests for Mass-books in churches, fixed book-rests in agencies for the consultation of guides, year-books, etc. However these book-rests, which are generally made of metal, are quite cumbersome and not very adaptable. For this reason they are fixed, except for the score supports which however have only a specific function, whereas our invention can be widely used everywhere, both at home and at work, and for every kind of text: books, newspapers, magazines, brochures and year-books of every type and size.

This invention consists essentially of an adjustable reclining support on which the text is placed. The support is hinged on a horizontal-supporting base and set on a bracket. The bracket is conveniently hinged on the horizontal base and can rotate to a certain degree supporting the text-supporting base and providing, through its range of movement, the incline for the text itself. Fig. 1 shows a vertical section of the invention. The components in the picture are:

- 1) supporting base for text to be read;
- 4) horizontal-supporting base;
- 7) movable bracket hinged on the base;
- 8) guide for the movable bracket;

- 9) adjustment-lever end;
- 10) book-pegs;
- 11) page-holding-pegs;
- 12) bracket-fixing grooves;
- 13) interface bracket-guide;
- 14) extendible metal sheet for larger texts;
- 15) hinge between base 1 and base 4;
- 17) lower guide-stop;
- 18) upper half ring where the guide is inserted;
- 24) hinge for movable bracket.

The function of guide 8) for movable bracket 7) is to prevent the bracket from falling onto base 4) in lifting base 1) using lever 9). In this way it is possible to adjust the base incline with one hand.

Figs. 2 and 3 respectively indicate the open and closed position of the invention. Here is an example of the shapes of the component parts which make up the structure, that is to be taken only as an indication.

Body (1,2,3), namely text-supporting base, is hinged to body (4,5,6), horizontal-supporting base.

Hinge 15) can be several or just one continuous one. The hinges can be replaced with flexible, elastic parts, made of the same material as the bases or of other material. The bases can be made of any material (metal, plastic, rubber, wood, etc. and/or combinations of these) and so also can the hinges or the flexible parts which have the same function.

Part 2) is hinged to parts 1) and 3) just as part 5) is hinged to parts 4) and 6), according to one of the methods previously described. (The line-tracing in the picture shows a different shape for the horizontal-supporting base). In this way the structure can be folded like a book (fig. 3). The shape and size of the bases, and therefore of every single part of them, have been designed so as to ensure functionality and aesthetic appearance with consideration of weight and size of the text to be supported. The bases pattern can have a square design or an empty-space design. The component parts making up the bases can be appropriately painted and/or covered with other materials as a decoration and thereby increasing their value (enamel, leather, silk, tortoise-shell, gold, etc.).

Fig. 4 shows a detail of body (5,2) in fig. 2. In particular, the movable bracket 7) is hinged on base 5) by element 24). At the upper end of the bracket there is a sheathing-slider 13) to join bracket 7) and flexible guide 8). This connection, fixed to the bracket, houses the flexible guide while running along it, followed by bracket (fig. 5).

Element 13) is a connection made up of two hollow, tangent bodies set at right angle in the form of a cross. The form of these bodies can be

cylindrical as well as elliptic, square, etc.

Holes 16) have been designed to allow the insertion of a tripod or mechanical arm so that the invention can be used even in the absence of a horizontal-supporting surface. Any tripod or mechanical arm available in commerce can be used. The holes can be threaded and can have different shapes and sizes according to the standards of the tripod or mechanical arm used. There are more holes because the barycentre of the invention varies according to the base incline and the weight of the text. On base 2) there are several grooves 12) that can be of any size and number. These grooves serve to fix the bracket in several positions when the slider moves along the flexible guide.

Guide 8) is an axis made of metal, or any other flexible material, and of any shape (flat-shaped, cylindrical, etc.), fixed at lower end 17) and inserted into upper half ring 18). The half ring must have an appropriate radius to ensure a certain movement for axis 8), in the movement due to pressure on lever 9). This operation makes it possible to insert or release the movable bracket at the several grooves, and thereby, to regulate the incline.

Element 9) in particular, in fig. 6, shows the ad hoc lever placed on the flexible axis. By pulling it towards the reader it is possible to regulate the base incline. This lever can be placed on a telescopic structure which is fixed on the flexible axis, so that incline regulation is possible even if the text is larger than the text-supporting base.

Fig. 7 indicates the front of the structure developed on a horizontal plane.

Element 14) is a rigid metal sheet which is fixed and can rotate on the text-supporting base so that the base can be extended in case the text is larger than the base itself. The length of these metal sheets can be increased by making element 14) with two or more pieces that can be hinged and superimposed one over the other like a mason's rule.

Both the horizontal-supporting base and the text-supporting base can be covered with rubber or other materials with a shagreened, grooved or any rough surface, to increase the grip, and consequently the stability, both of the invention on any supporting surface and of the text placed on its base.

Element 10) represents a peg which can have two functions: to support the text when reading, in which case the peg will have grooves on the surface in contact with the text to ensure greater stability for it; to fix the page-holding device (elastic 23)).

Element 11) has the function of regulating the page-holding level, as this level can vary according to the thickness of the text. Pegs 10) and 11) can

be in fixed sizes or varying sizes. Varying-sized pegs can be obtained by means of adopting the telescopic system (fig. 9).

Figs. 7 and 8 indicate how the pegs can be pivoted and be fixed or movable and/or of both types. Fig. 7, in particular, shows an example of fixed pegs pivoted on the text-supporting base, whereas fig. 8 gives an example of movable pegs which are free to run along a track which is furnished with grooves 20) to stop the pegs. The grooves on the track act as a block for the peg as it must take the page-holding-elastic tension. By this method the holding-page device assumes the position shown in fig. 8, instead of the one shown in fig. 7. Thanks to the movable pegs the page-holding device position can be stabilized according to text size.

Body 2) in figs. 7 and 8 indicates two pairs of pegs 21) which act as hooks for the book-blocking devices (elastics). These pegs, unlike the previous ones, are fixed and shorter.

Devices 19) and 23) can be made by using elastics of appropriate size and shape. The elastic surface in contact with the page can be roughened to increase the gripping power.

Element 22) is an extra extension of body (4,5,6), useful when adjusting the text, and acting as a supporting base for a hand. This extension can be retractable-extendible with respect to the basic surface, or it can return and overlap, with the right rotation, over the base where a holding slot is provided in case of necessity.

As an extra indication, in fig. 10, there is a cylindrical-page-holding device. This is made up of a support which is vertical to the text-supporting base. A spring is inserted into the support and is hooked to an L-shaped element which rests on the page and holds it.

Obviously, several practical modifications can be added to the invention (i.e. magnetizing the grooves, using new materials) without affecting the invention as claimed in the following pages.

Claims

1. Portable, folding book-rest with adjustable incline characterized by the inclusion of:
 - a supporting base for text to be read;
 - a horizontal-supporting base;
 - a hinge between horizontal-supporting base and text-supporting base;
 - "tongues" to extend horizontal-supporting base;
 - a movable bracket hinged on the base;
 - a hinge for movable bracket;
 - a flexible guide for the movable bracket;
 - a lower guide-stop;
 - an upper half ring where the guide is inserted;

- an interface bracket-guide;
- bracket-fixing grooves;
- extendible metal sheets for larger texts;
- an ad hoc lever for incline regulation;
- book-pegs;
- page-holding-pegs;
- book-blocking-pegs;
- holes or an elliptic hole for insertion of a tripod or mechanical arm.

2. Invention structure according to claim 1 and characterized by the inclusion of:

- a text-supporting base which is a body made up of three hinged elements;
- a horizontal-supporting base which is also a body made up of three hinged elements;
- text-supporting base hinged to horizontal-supporting base;
- hinges which can be several or one continuous one, and/or flexible parts which have the same function;
- metal sheets which are fixed on the external part of the text-supporting base and which can rotate on it, so that the base can be extended in case the text is larger than the base itself. These metal sheets can consist of two or more pieces that can be hinged and superimposed one over the other like a mason's rule;
- "tongues" to extend the horizontal-supporting base useful when adjusting the text. These "tongues" can overlap, with the right rotation, over the base where a holding slot is provided in case of necessity.

3. Invention structure according to the previous claims and having the following characteristics:

- the bases can be made of any material (metal, plastic, etc.), and so also can the hinges or the flexible parts which have the same function;
- the shape and size of the bases can be made so as to ensure functionality and aesthetic appearance. In particular, their pattern can have a square design or an empty-space design;
- both the horizontal-supporting base and the text-supporting base can be conveniently covered with rubber or other materials with a shagreened, grooved or any rough surface, to increase the grip, and consequently the stability, both of the invention on any supporting surface and of the text placed on its base;
- the component parts making up the bases can be appropriately painted and/or covered with other materials as decoration and thereby increasing their value (enamel, leather, silk, tortoise-shell; gold, etc.).

4. Invention according to claim 2 and characterized by the inclusion of:

- a movable bracket conveniently hinged on the horizontal-supporting base. At the upper end of the bracket there is a sheathing-slider to join the bracket

et and the flexible guide. This connection, fixed to the bracket, houses the flexible guide while running along it, followed by the bracket. This bracket can rotate to a certain degree supporting the text-supporting base and providing through its range of movement, the incline for the text itself;

- a connection made up of two hollow, tangent bodies set at right angle in the form of a cross. The form of these bodies can be cylindrical as well as elliptic, square, etc.;

- a flexible guide which is an axis of any shape that is conveniently fixed in the lower-rear part of the central element of the body making up the text-supporting base and inserted, in the upper-rear part, into a half ring having an appropriate radius to ensure a certain movement for the axis;

- several grooves of any size and number which serve to fix the bracket in several positions;

- an ad hoc lever, placed at the upper end of the flexible axis guide, which allows the incline regulation. This lever can be placed on a telescopic structure which is fixed on the flexible axis, so that incline regulation is possible even if the text is larger than the text-supporting base;

- several holes, or an elliptic hole designed on the central element of the body making up the horizontal-supporting base, to allow the insertion of a tripod or mechanical arm so that the invention can be used even in the absence of a horizontal-supporting surface. These holes can be threaded and can have different shapes and sizes according to the standards of the tripod or mechanical arm used.

The elements of the above claim 4 participate in the regulation system of the invention.

5. Invention according to claims 1,2,3, characterized by the inclusion of:

- several pegs, conveniently placed, which have two functions: to support the text when reading; to fix the page-holding device. These pegs can be in fixed sizes or varying sizes. Varying-sized pegs can be obtained by means of adopting the telescopic system;

- several pegs, conveniently placed, which have the function of regulating the page-holding level, as this level can vary according to the thickness of the text. These pegs can also be made like the previous ones;

- a pair of pegs placed on the central element of the body making up the text-supporting base, which act as hooks for book-blocking device (elastic);

- an extra cylindrical-page-holding device which is a support vertical to the text-supporting base. A spring is inserted into the support and is hooked to an L-shaped element which rests on the page and holds it.

6. Invention according to claims 1,2,3,5, char-

acterized by:

- a pair of tracks, designed on the external part of the body making up the text-supporting base, in which the pegs can run. The tracks are furnished with grooves to block the pegs. This device (track,peg) makes it possible to regulate the page-holding device according to the text-size.

7. The invention, according to the previous claims has been widely described and illustrated both in the description and in the enclosed pictures which form an integral part of this request for patent.

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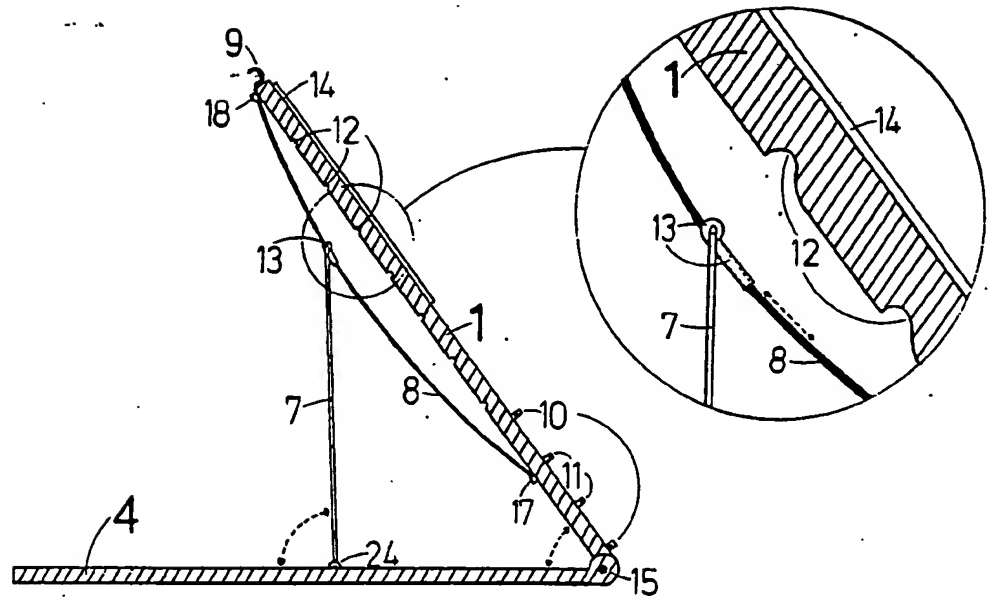


Fig. 1

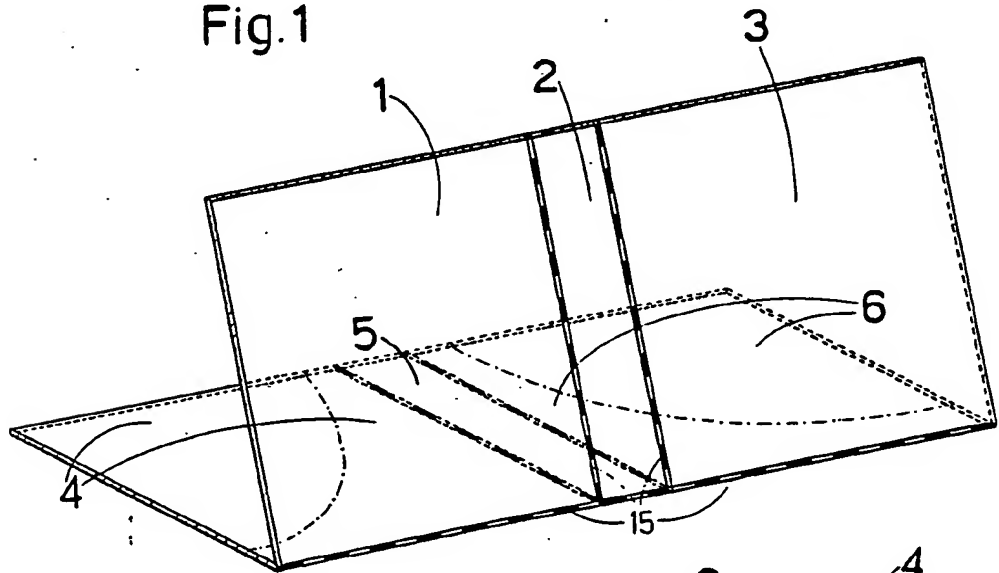


Fig. 2

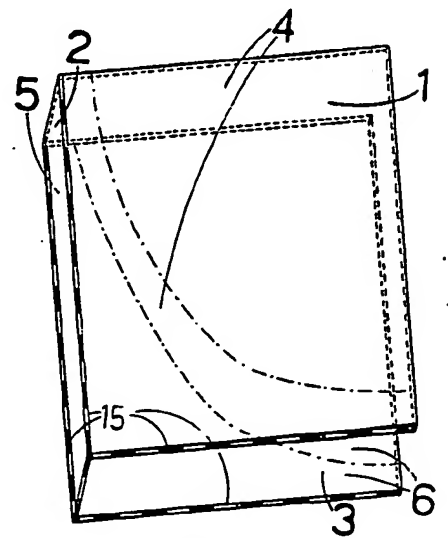


Fig. 3

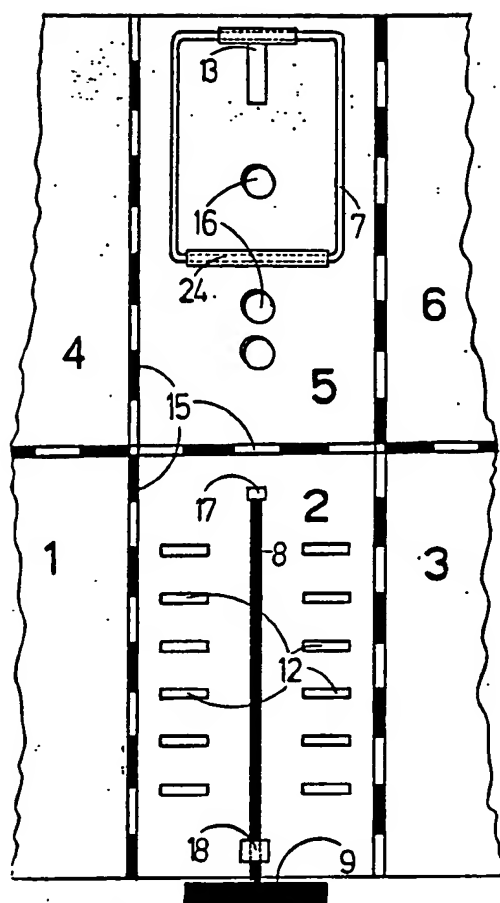


Fig. 4

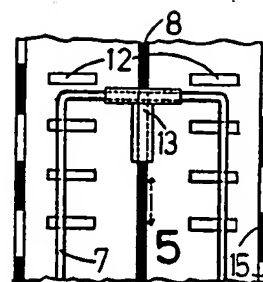


Fig. 5

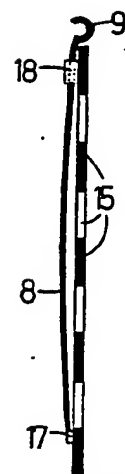


Fig. 6

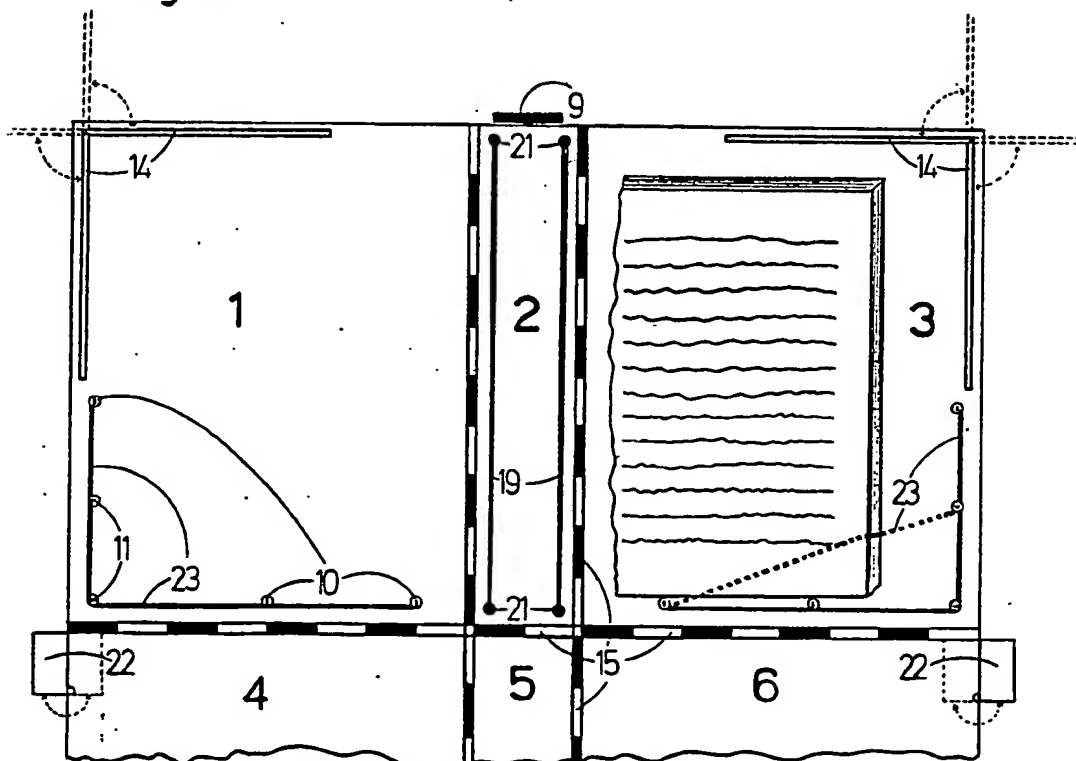


Fig. 7

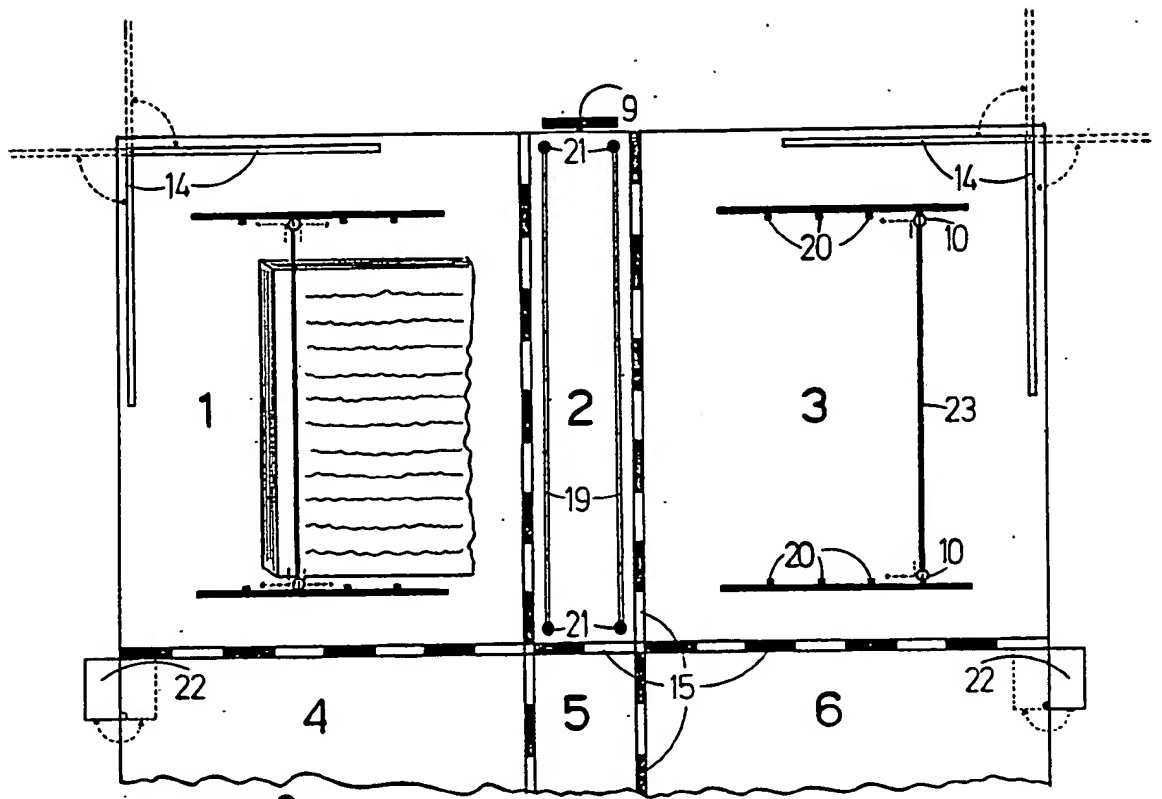


Fig. 8

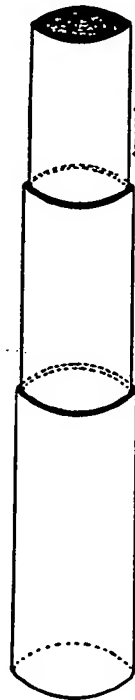


Fig. 9

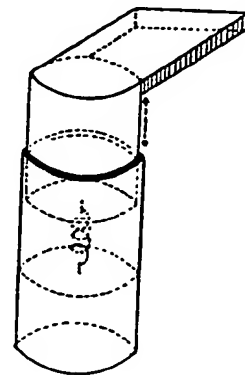


Fig. 10

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